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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/503,494 02/14/00 PERCIBALLI

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EXAMINER

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PHOENIX AZ 85048

JOHNSON, S

ART UNIT

PAPER NUMBER

3641

DATE MAILED:

04/30/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/503,494

Applicant(s)

William J. Perciballi

Examiner

Stephen M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on Feb 14, 2000
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-14 and 16 is/are rejected.
- 7) Claim(s) 15 is/are objected to.
- 8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on Feb 14, 2000 is/are objected to by the Examiner.
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) All b) Some* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) Notice of References Cited (PTO-892) 18) Interview Summary (PTO-413) Paper No(s). _____
- 16) Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) Notice of Informal Patent Application (PTO-152)
- 17) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) Other: _____

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1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the 3-dimensional structure with associated stitching or fiber axes along or about the z-axis of the fabric as well as the z-axis of the fabric must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
2. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect can be deferred until the application is allowed by the examiner.
3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

The following claim language lacks support in the written specification: (1) in claim 1, lines 2-3, the phrase “0.080-inches to 0.310-inches”; (2) in claim 11, the phrase “fineness ranging from 250- to 3,500-denier”; (3) in claim 12, the phrase “aramid fibers in plain, basket, or twill weave styles with basis weights between 3.5- and 20.0-ounces-per-square-yard”; (4) in claim 13, the phrase “unidirectional ... tapes arranged in 0, 15, 30, 45, 60, 90-degree orientation or combinations thereof”; (5) in claim 14, the phrase “3-dimensional structure incorporates stitching or fiber axes along or about the z-axis of the fabric”; (6) in claim 15, the phrase “in the range between 0.430-inches and 0.530-inches inclusively; and (7) in claim 16, the phrase “in the range between 4.00- and 5.70-pounds-per-square-foot inclusively”.

Correction is required.

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4. Claim 15 is objected to under 37 CFR 1.75© as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

Accordingly, the claim 15 has not been further treated on the merits.

5. Claims 1- 14 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 3 and 5, a comma should be included after the word "inches". In claim 1, line 7, a period should be included after the word "inches". In claim 2, what bullet is intended to be included by the descriptions "M193", "M855", "SS109", "M80", "LPS", and/or "PS"? In claims 3, 4, 5, and 6, the phrase "the ceramic facing" should be claimed as 'the ceramic facing element' for complete antecedent agreement of terms. In claim 5, use of the phrase "the ceramic materials of claims 4 and 5 either alone or in combination" makes the claim indefinite. A dependent claim must contain all of the limitations of the claim from which it depends. By only selecting a portion of claim 4 (and it is uncertain as to what portion is intended to be included), claim 5 does not contain all of the claim limitations of claim 4. Further, reference to "the ceramic materials of claims .. 5" makes the claim indefinite because a claim cannot depend from itself and because there is no ceramic material mentioned in claim 5. In claims 9 and 10, the phrase "the adhesive" should be claimed as 'the adhesive layer' for complete antecedent agreement of terms.

In claims 12 and 13, the phrase "the aramid composite" should be claimed as 'the aramid fiber composite substrate' if this is the intended antecedent. In claim 13, line 2, what is meant by

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the phrase "unidirectional all tapes"? In claim 14, the phrases "the aramid fiber backing" and "the fabric" lack antecedents. In claim 16, the phrase "the ceramic, adhesive, substrate elements" lack complete agreement with their antecedents.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

7. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Lyons.

Lyons discloses a ceramic armor apparatus comprising:

- | | |
|--|-------------------------|
| a) a ceramic facing element (0.080-0.310 inches), | 20 |
| b) an adhesive layer (0.002-0.090 inches), and | 24, col. 5, line 2 |
| c) an aramid fiber composite (0.130-0.350 inches). | 21, col. 4, lines 65-66 |

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons in view of Lawler.

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Lyons applies as previously recited. However, undisclosed is an adhesive layer that is polyurethane. Lawler teaches an adhesive layer that is polyurethane (see col. 2, lines 14-15). Applicant is substituting one adhesive layer material type for another in an analogous art setting as explicitly encouraged by the primary reference (see col. 3, lines 51-53). It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Lawler to the Lyons armor arrangement and have an armor arrangement with a different material type of adhesive.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons in view of Sugimoto et al..

Lyons applies as previously recited. However, undisclosed is an adhesive layer that is polyolefin. Sugimoto et al. teach an adhesive layer that is polyolefin 3. Applicant is substituting one adhesive layer material type for another in an analogous art setting as explicitly encouraged by the primary reference (see col. 3, lines 51-53). It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Sugimoto et al. to the Lyons armor arrangement and have an armor arrangement with a different material type of adhesive.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons in view of Dragone et al..

Lyons applies as previously recited. However, undisclosed are fibers of the aramid fiber substrate that are of a fineness ranging from 250-3,500 denier. Dragone et al. teach fibers of the

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aramid fiber substrate that are of a fineness ranging from 250-3,500 denier, see col.5, lines 54-63.

Applicant is substituting one denier thickness for the fibers of the aramid fiber for another in an analogous art setting. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Dragone et al. to the Lyons armor arrangement and have an armor arrangement with fibers of a different denier.

12. Claims 12-14 and 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tarpinian, Semple, King, and Vives et al. disclose other state of the art armor composites.

14. Any inquiry concerning this communication should be directed to Stephen M. Johnson at telephone number (703)-306-4158.


STEPHEN M. JOHNSON
PRIMARY EXAMINER